



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

D5799-5

Job Sheet 208157



POSITIVE RECALL

POSITIVE  
RECALL

Part No: D5799-5

Job Qty: 1 pcs

EFFECTIVE AUTH

Part Name: Long Handle

RELEASED DATE



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/12/20

Job Tracking No:

Due Date: 3/24/20

Created By: Jennifer Renwick

Type: Stock

Description:

Note: URF 2020-525 DWG 5799 REV.A IPP REV:A NEW ISSUE 20.01.15 JV VERF:DD

Ship Via:

## Bill of Materials

## Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Large Fab - Welded Assy-1	1 pcs	3/24/20	3/24/20	0.00	0.04	Large Fab - 1		
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4	DAS	
							Large Fab - 5	24	
							Large Fab - 6	9-89	
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		
							Large Fab - 12		
110	QC 5	1 pcs	3/24/20	3/24/20	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Container No: S273832



Part: D5799-5

Job No: 208157

Serial No/Batch: S273832

Revision: REV.A

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL: 1 813 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

Date: 04/27/20

DAS

MAY 01 2020 40 9-89

Plex 3/12/20 9:18 AM Dart.lajeunesse.marie

120	Packaging 3-1 - Stock - B4B	1 pcs	3/24/20	0.00 0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	DAS
					Packaging 3 - 15 - B4B	24
					Packaging 3 - 16 - B4B	8-89
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
					Packaging 3 - 37 - B4B	
130	QC 21 - SA	1 pcs	3/24/20	0.00 0.00	QC 21 - SA - 21	DAS
					QC 21 - SA - 70	21
					QC 21 - SA - 53	8-89

Part Op 100 - 1- Cut to length 58.83" as per D5799 dwg 2- Deburr  
 Descriptions: 110 - QC5- Inspect part completeness to step on W/O  
 120 - Identify as per dwg & Stock Location: \_\_\_\_\_  
 130 - QC21- Final Inspection - Work Order Release

## Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M304TR1.000W.065	304 Round Tube 1.00 X .065W	4.9125 ft (4.9125 ea)	100-Large Fab - Welded Assy-1	5269181

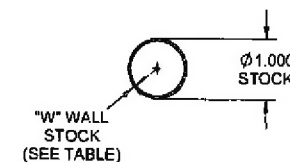
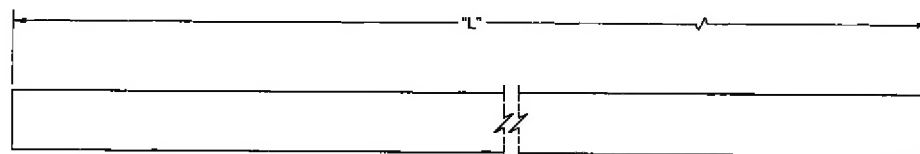
## Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Large Fab - Welded Assy-1	M304TR1.000W.065	5	4	0

## Part Specifications

Specifications could not be found.

P/N	DESCRIPTION	"L"	"W"	WEIGHT (lbs)
D5799-1	SHORT HANDLE	21.33	0.036	0.65
D5799-3	MEDIUM HANDLE	40.33	0.065	2.20
D5799-5	LONG HANDLE	58.83	0.065	3.21



**D5799-Y HANDLE**  
(DERIVED FROM AERO DESIGN P/N 36277-01)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 208157 MJS  
20-03-12

UNDER REVIEW

URF 2020-525 20.02.20 (NO)

**NOTES:**

- 1) MATERIAL: 304/316 STAINLESS STEEL SEAMLESS ROUND TUBING, 1.00 OD X "W" WALL (SEE TABLE)  
PER ASTM A213 OR ASME SA213 OR ASTM A269  
REF DART SPEC M304TR
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: SEE TABLE

**RELEASED**

2020 FEB 19 4

APPROVED

DESIGN	ZF	<b>DART AEROSPACE LTD</b>	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	DRAWING NO.	REV. A
MFG. APPR.	DD	D5799	SHEET 2 OF 4
APPROVED	NO	TITLE	SCALE
DE APPR.	CP	HANDLE	NTS
DATE	20.01.10	COPYRIGHT © 2021 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED UNDER EXPRESS AGREEMENT THAT IT IS NOT TO BE USED FOR REPRODUCTION OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

Job: _____  Part No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	<b>DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Water Jet <input type="checkbox"/>            Supplier <input type="checkbox"/>            Quality <input type="checkbox"/> </div> </div>			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QS1042)	
<b>Description Work Order Deviation</b>		<b>Disposition</b>		<b>Completed By</b>	
<b>Root Cause</b>  <div style="display: flex; justify-content: space-between;"> <div>           Operator <input type="checkbox"/>            Manufacturing Process <input type="checkbox"/>            Equip/Tooling <input type="checkbox"/>            Handling/Preservation <input type="checkbox"/>            Material <input type="checkbox"/>            Product Improvement <input type="checkbox"/>            Process Improvement <input type="checkbox"/>            Human Factors <input type="checkbox"/> </div> <div> <input type="checkbox"/> Pressure/Forced  <input type="checkbox"/> Bending  <input type="checkbox"/> Crushing  <input type="checkbox"/> Cracks  <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist  <input type="checkbox"/> Marks/Chatter  <input type="checkbox"/> Mislabeled         </div> <div> <input type="checkbox"/> Contamination  <input type="checkbox"/> Misaligned/off center  <input type="checkbox"/> BOM/Route  <input type="checkbox"/> Broken/Damage/Defect  <input type="checkbox"/> Incomplete/Unclear Instructions  <input type="checkbox"/> Drill Holes  <input type="checkbox"/> Fit/Function         </div> <div> <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Folio/Program  <input type="checkbox"/> Grain Direction  <input type="checkbox"/> Weld  <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Out of Sequence  <input type="checkbox"/> Off-set/Set-up         </div> <div> <input type="checkbox"/> Positioned Wrong  <input type="checkbox"/> Outside Tolerance  <input type="checkbox"/> Drawing  <input type="checkbox"/> Finish  <input type="checkbox"/> Part Lost/Missing  <input type="checkbox"/> Misread         </div> </div>		Other/Details: _____  _____  _____			



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER POHB046038



**Supplier:** TWM001-VU  
TW Metals  
PO Box 983014  
Atlanta, GA 31193-3014 USA  
Phone: 585 768 5600  
Fax: 585 768 5601

**Attention:** Sullivan, Roseann

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**PO No:** POHB046038

**PO Date:** 3/6/20

**Due Date:** 3/17/20

**Purchase Order**

**Revision:**

**Revision Date:**

**Issued By:**

Lavoie, Chantal  
Phone: 613-632-5200 Ext: 242  
Fax: 613-632-1053  
clavoie@dartaero.com

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:**

**E-MAILED**  
MAR 10 2020

Special Comments:

Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M304TR0.375W.065			304 Round Tube .375 X .065W  MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft	Firmed		3/17/20	48 ft 40	0 ft	48 ft	\$4.60/ft	\$220.80
2		M304TR0.500W.035			304 Round Tube .500 X .035W  MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING AS PER ASTM A213 OR ASME SA213 OR ASTM A269 receive ft	Firmed		3/17/20	120 ft	0 ft	120 ft	\$5.10/ft	\$612.00

APR 07 2020

APR 07 2020

## PURCHASE ORDER



**Dart Aerospace Ltd.**  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

**Tel (613) 632-5200**

**PURCHASE ORDER**  
**POHB046038**

[illegible]

**Grand Total: \$3,567.60**

### Order Notes

## Procurement Quality Clauses

- AD05 right of entry  
AD12 chemical and physical test report  
AD16 personnel qualification  
AD17 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)  
AD26 certification of material conformance  
AD41 quality management system  
AD42 data notification by supplier  
AD43 retention of quality documents

**A048 counterfeit parts avoidance, detection, mitigation and disposition program.**

**A049 supplier awareness.**

Terms & Condition of Purchasing (Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plax 3/10/20 9:57 AM Dart.Lavoie.Chantal

CONSIGNEE CO?

### An Idealist's Companion

TERMINAL 613-244-3593

04/03/20 13:40

SHIPPER'S NO. 03397823-12757 CRN 03397823

**PICK UP DATE**

**CODE TO**

FD NO

NO. OF PAGES: 10

## 1 ROUTING

**CIN-OWA**

FREIGHT BILL NO.

03/11/20

3841

POH046038

036938-067

CONSIGNEE 544230-0001  
DART AEROSPACE LTD

**067892457**

**T W METALS INC**

7640 REINHOLD DR

**CINCINNATI OH 15237-3312**

1270 ABERDEEN ST  
HAWKESBURY ON K6A1K7

PIECES	DESCRIPTION	WEIGHT (LBS.)	RATE	CHARGES
1 CRF	*NOTES FOLLOW: *CCN:2604PARS067892457 *TRAM:10827432423790 TOTAL END PIECES: 1 PIPE, TUBING, OR PIPE OR TUBING FITTINGS, 1/8, COMBINED OR NOT COMBINED WITH OTHER MATERIALS, NOI, LOOSE OR IN PKGS, GREATEST DIA EXCEEDING 96 INCHES BUT NOT EXCEEDING 192 INCHES C70 ITEM: 052190-03 / CROSS-BORDER ADMINISTRATIVE FEE / OVER-DIMENSION BASED ON 122 INCHES // FUEL SURCHARGE /// GOODS & SERVICES TAX LBP MEASURED CUBE: 7.060 CUFT TOTALS FREIGHT BILL NO	243           CUB OD FSC GST	243           243 PREPAID	067892457 SFB 036938-P007

**SFB 036938-P007**

**CGD AMOUNT**

**243 PREPAID**

**PAY THIS AMOUNT**

RB 22149  
TAR ABFB0355  
OZP 432373312  
DZP K6A1K7  
SPEC. HAND.

ORDER NO.		CITY		STATE		ZIP		REMIT TO		SPEC. HAND.	
QUANTITY 0007				PRIOR PRO							
DELIVERY DUE DATE		DATE 03/16		DATE							
DRIVER											
YOUR ACCEPTANCE OF DELIVERY IS SUBJECT TO ABF 111 SERIES TERMS.											
CONSIGNEE								BY CUSTOMER'S SIGNATURE			

RECEIVED

APR 16 2020

DART AEROSPACE LTD

1 Benke

04/06/2070





O'Neal High-Performance Metals Group



Packing  
Slip

ORDER NO.: 03397823 FROM: CINC PAGE 1

CUST NUMBER: 1203820 NET WGT: 228.065 REQ.DATE: 03/17/20 CONFIRMED  
SOLD TO: SHIP TO:  
DART AEROSPACE LTD DART AEROSPACE LTD  
1270 ABERDEEN ST 1270 ABERDEEN ST  
HAWKESBURY ON HAWKESBURY ON  
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 03/12/20  
TERMS: NET 30 DAYS VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT FREIGHT: PREPAID  
CUST ORD NO.: POHB046038 RELEASE NO.:  
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH  
0001 25645 SMLS CD 304/L A269 3/8 OD X .065 WA 20 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	40.000 FT	40.000 FT	40.000 FT	8.606	2

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO:49421446 HT:554823 PC: 2 CUSTOMER QTY: 40.000 UOM FT  
MLT:SWEDEN MFG:CANADA SLB/CL:LOT#293891 DC

0002 21748 SMLS CD 304/L A269 1/2 OD X .035 WA 20 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	120.000 FT	120.000 FT	120.000 FT	20.851	6

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO:49421044 HT:553351 PC: 6 CUSTOMER QTY: 120.000 UOM FT  
MLT:SWEDEN MFG:CANADA SLB/CL:LOT# 291251 DC

0003 36861 SMLS CD 304/L A269 3/4 OD X .049 WA 20 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	408.000 FT	400.000 FT	400.000 FT	146.688	20

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO:49422583 HT:556561 PC: 20 CUSTOMER QTY: 400.000 UOM FT  
MLT:SWEDEN MFG:UNITED STATES SLB/CL:LOT#297269 DC

1 PO:



POHB046038

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE  
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL  
REVIEW.  
<http://www.twmetals.com/invoice-terms.html>





O'Neil High-Performance Metals Group



Packing  
Slip

ORDER NO.: 03397823 FROM: CINC PAGE 2

CUST NUMBER: 1203820 NET WGT: 228.065 REQ. DATE: 03/17/20 CONFIRMED  
SOLD TO: SHIP TO:  
DART AEROSPACE LTD DART AEROSPACE LTD  
1270 ABERDEEN ST 1270 ABERDEEN ST  
HAWKESBURY ON HAWKESBURY ON  
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 03/12/20  
TERMS: NET 30 DAYS VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT FREIGHT: PREPAID  
CUST ORD NO.: POHB046038 RELEASE NO.:  
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH  
0004 4467 SMLS CD 304/L A269 1 OD X .065 WA ✓ 20 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	80.000 FT	80.000 FT	80.000 FT ✓	51.920	4

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO: 49409629 HT: 551245 PC: 4 CUSTOMER QTY: 80.000 UOM FT  
MLT: SWEDEN MFG: UNITED STATES SLB/CL: LOT# 286869 DC

BROKERS LIVINGSTON INTERNATIONAL  
ALL ITEM 20 FT MUST BE CUT IN HALF FOR SHIPPING  
SHIP VIA ABF FREIGHT  
PLEASE NOTE ALL 20 FT TO BE CUT IN  
HALF FOR SHIPPING

AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH	HGHT
BAY 4	REDDICRATE	1.000	243.000	10.0000	122.0000	10
						CUBIC FT 7.0602
		1.000	243.000			

BY: JG  
RT 000-

UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED \_\_\_\_\_

PO:



\*POHB046038\*

DATE FILLED \_\_\_\_\_

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE  
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL  
REVIEW.  
<http://www.twmetals.com/invoice-terms.html>



www.materials.sandvik.net

Sandvik Materials Technology

Product Area Tube

982 Griffin Pond Rd, Clarks Summit, PA US 18411, Ph: 570-585-7600

# MATERIAL CERTIFICATE

Cert#: 190017082

Page 1

Plant Location: 982 Griffin Pond Road, Clarks Summit, PA 18411  
 Sold To: 790396  
 TW METALS - CORPORATE  
 EXTON PA  
 Customer Order No: M49409629  
 Sandvik Order No: 365479/1

Ship To:  
 TW METALS - CHARLOTTE (20)  
 CHARLOTTE NC  
 Certification Date: 20190606  
 Quantity: 800 FT

Work Order/Lot: 286869

ASTM A511-16, Mechanical Tubing, ASTM A269-15a, ASTM A213-18b  
 ASME SA-213, ASME Section II, 2017 Edition, NACE MR0175/ISO 15156  
 3rd Edition 2015-11-23, (Austenitic), NACE MR0103/ISO 17945:2016

Cold Finished BRIGHT ANNEALED Seamless Tube  
 Type MT 304/MT 304L/TP304/TP304L

Size: 1.000" X .065" AW  
 Heat: 551245

Material Manufacturer: Sandvik Materials Technology USA

## ANALYSIS %

	C	Si	Mn	P	S	Cr	Ni
Heat	.015	.36	1.57	.028	.009	18.19	10.11
Prod	.012	.36	1.58	.028	.007	18.23	10.14
	Fe	Co	Al	Pb	N		
Heat		.10	.003		.024		
Prod		.10	.003		.039		

## Mechanical Tests:

Yield Strength		Tensile Strength		Elongation in %				Reduction Of Area %
0.2%	1.0%			E2"	E16"	E4d	E5d	
psi	MPa	psi	MPa					
46200	318.6	N/A	88000	606.9	52	N/A	N/A	N/A
45800	315.9		87500	603.4	53			

Hardness Test Results: 72HREW, 75HREW

Domestically manufactured product - Qualifying countries in DFARS 225.872-1 do not apply.

Flare Test per ASTM A450/A1016 and ASME SA450/SA1016,

No. samples: 2 Result: Acceptable

Flattening Test per ASTM A450/A1016 and ASME SA450/SA1016: Acceptable

Tensile Test sample width (1=Full-Size 2-1/2" Strip): 1

This material complies with DFARS 252.225-7001 (2016)

This material does not comply with DFARS 252.225-7008 (2013)

This material complies with DFARS 252.225-7009 (2014)

This material does not comply with FAR 52.225-1 (2009)

This material complies with FAR 52.225-5 (1999)

Country Of Origin: United States

100% Positive Material Identification performed

All material subjected to a final solution annealing heat treatment with material at a temperature of 1900 deg. F

minimum followed by rapid quenching to below 800 deg. F in less than three (3) minutes.

The material has not come in contact with Mercury or Mercury containing compounds.

No welding has been performed on this material.

Material has been eddy current tested in accordance with

TW METALS  
 JUN 19 2019  
 CB  
 ACCEPTED BY

(4)

# MATERIAL CERTIFICATE

Cert#: 190017082

Page 2

ASTM A450, ASTM A1016 and is acceptable.

Sandvik Materials Technology manufactured materials meet the former requirements of the United States Department of Defense Regulation Supplement (DFARS) 252.225-7014. Material was manufactured in compliance with Annex 1, Para. 4.3 of the Pressure Equipment Directive (2014/68/EU). Inspection certificate produced in accordance with EN 10204 3.1 (formerly EN 10204 3.1.B).

No unauthorized alterations. The contents of this Inspection Certificate may not be modified or revised in any way without the prior written approval of Sandvik Materials Technology. Unauthorized alterations to the Inspection Certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both. This Inspection Certificate may be copied only in the manner and for the purposes specified in EN 10204:2004, Section 6. Contravention of this notice will be prosecuted to the fullest extent of the applicable law(s).

Material has been manufactured/supplied in accordance with Sandvik Materials Technology Quality Manual-Commercial Products Revision 0 dated Dec. 7, 2017. Quality system has been approved to ISO 9001:2015 (Cert# 10047907, 02JAN18). No unauthorized alterations. The content of this inspection certificate may not be modified or revised in any way without the prior written approval of Sandvik Materials Technology. Unauthorized alterations to the inspection certificate, including introduction of false, fictitious or fraudulent statements or entries, may be punishable by fines, imprisonment, or both.

Contravention of this notice will be prosecuted to the fullest extent of the applicable laws.

Melt Source: SMT SANDVIKEN, SWEDEN

Melt Method: Electric Arc Furnace-AOD Refining

This is to certify that the contents of this certificate are correct and accurate as contained in Sandvik's records, and that all above test results and operations performed are in compliance with the requirements of the purchase order and the specification(s) listed above.

Electronically Generated Certificate-Valid without signature

John Scherer, Quality Mgr-Tube

10 (NADCSTKBA TW R7) (15) (PT8729)

TW METALS

JUN 19 2018  
CB  
ACCEPTED BY

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TR1.000W.065 PO / BATCH NO.: POM3046038  
DATE: APR 09 2020 5269181

MATERIAL CERT REC'D: YES  
QUANTITY RECEIVED: 80 FT  
QUANTITY INSPECTED: 80 FT  
QUANTITY REJECTED: —

THICKNESS ORDERED: 1.000 W. 065  
THICKNESS RECEIVED: 1.000 W. 065  
SHEET SIZE ORDERED:                       
SHEET SIZE RECEIVED:                     

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	ASTM A269
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	H/T 551245
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.					
RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

**testers located in the Quality Office**

QC INSPECTION

INSPECTED BY: \_\_\_\_\_

DATE: APR 03 2020

SIGNED OFF BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in**

\_XA\_EG\_XZ~DGR:CImg917, 9500, 19, 000000000000000000000000000000000000

LINE 4  
M304TR 1.000 W .065

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING

SPECIFICATION: ASTM A213 OR ASME SA213 OR ASTM A269

WALL THICKNESS TOLERANCE PER ASTM A269 AS FOLLOWS:

OD (IN)	PERMISSABLE OD TOL (IN)	PERMISSABLE WALL TOL
UP TO 1/2	±0.005	±15%
1/2 TO 1 1/2, EXCL.	±0.005	±10%
1 1/2 TO 3, EXCL.	±0.010	±10%
3 TO 6, EXCL.	±0.015	±10%
6 TO 8, EXCL.	±0.030	±10%

PART NUMBER: M304TR D.DDD W.TTT  
OD WALL

WHERE "D.DDD" = OUTSIDE DIAMETER IN INCHES  
AND "T.TT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TR0.375W.065

RELEASED  
2/2/2013

B	REFORMAT DWG, ADD SPECS (ZN 08-1), REF PAR 08-020A	CP	08.10.20
A	NEW ISSUE	DS	01.08.98
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.20		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. M304TR	REV. B
TITLE 304/316 ROUND TUBING	SHEET 1 OF 1
SCALE NTS	
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